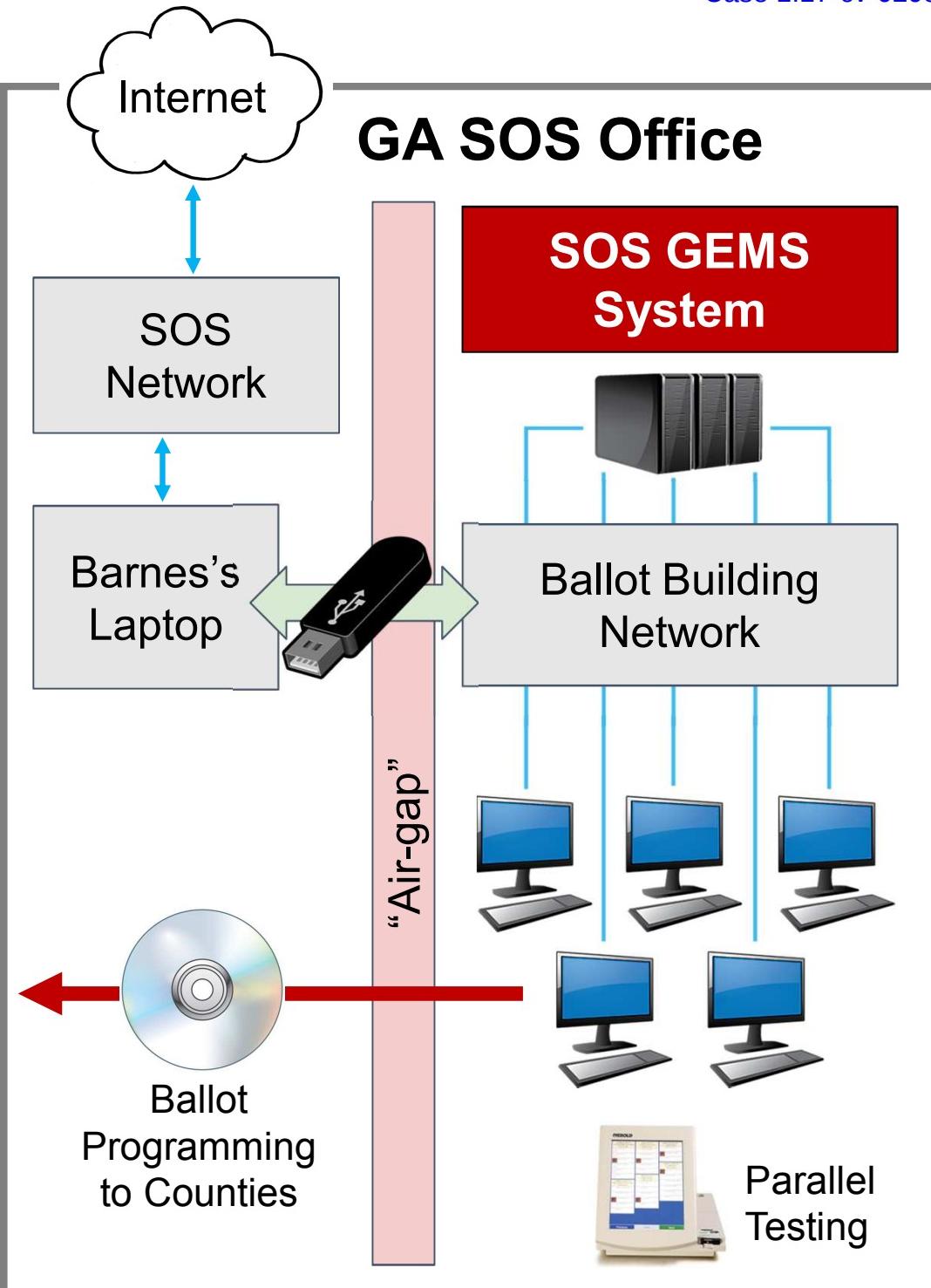


EXHIBIT 1



**If SOS GEMS system infected:
Spreads to county GEMS systems,
infecting all GA voting machines**

Calif. TTBR Diebold Source Code Review (2007)

Could be infected by:

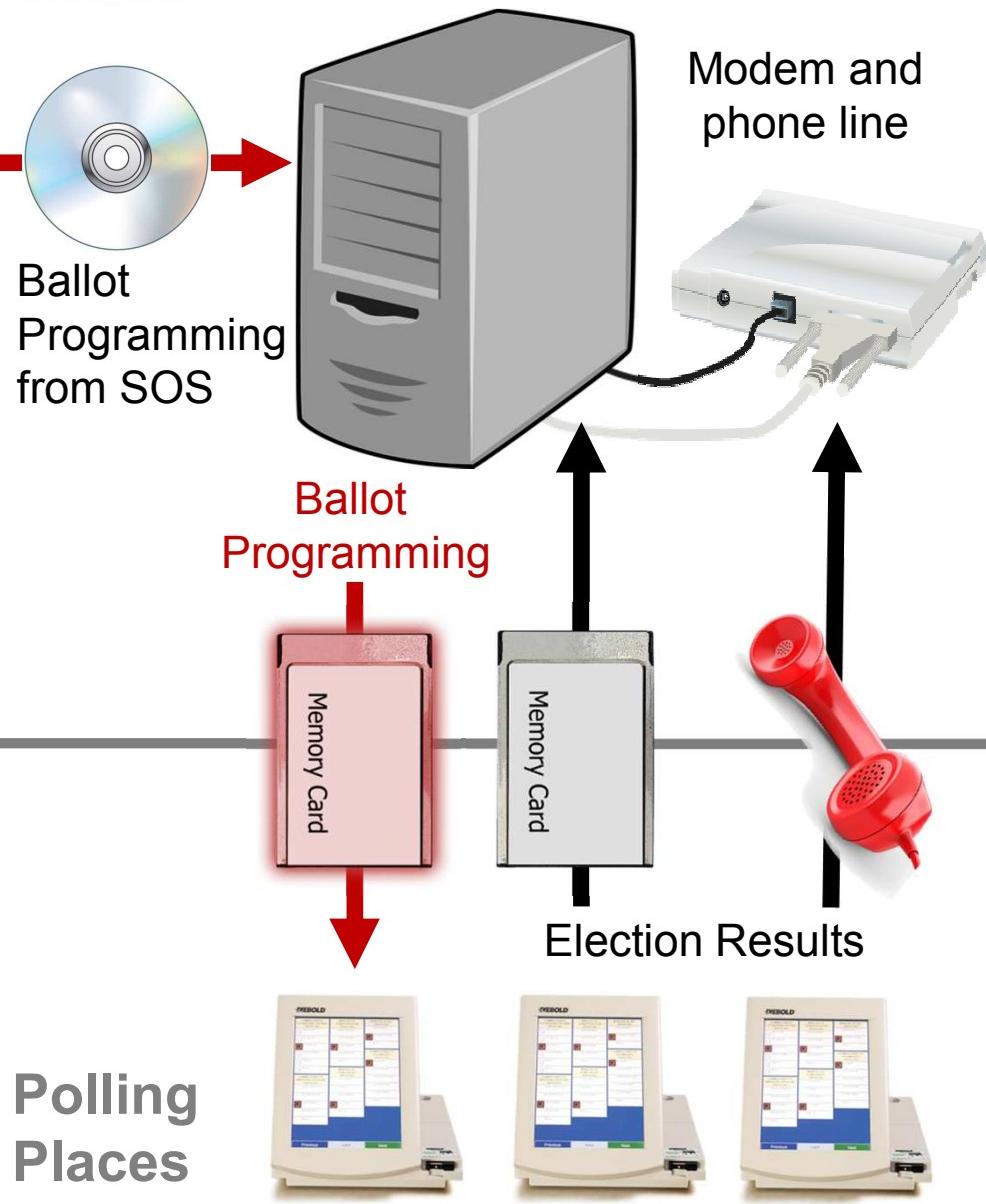
- (a) Barnes' USB stick
- (b) Employee errors
- (c) Dishonest insiders
- (d) Physical intrusion
- (e) Supply chain attacks
- (f) Legacy KSU data

Inadequate mitigations:

- “Air-gapped” network
- “Albert sensors” and host-based protection
- Incremental security improvements
- Encrypting CDs sent to counties
- Parallel testing

County Election Office

County GEMS System



**If county GEMS system infected:
Infect all county voting machines**

Calif. TTBR Diebold Source Code Review (2007)

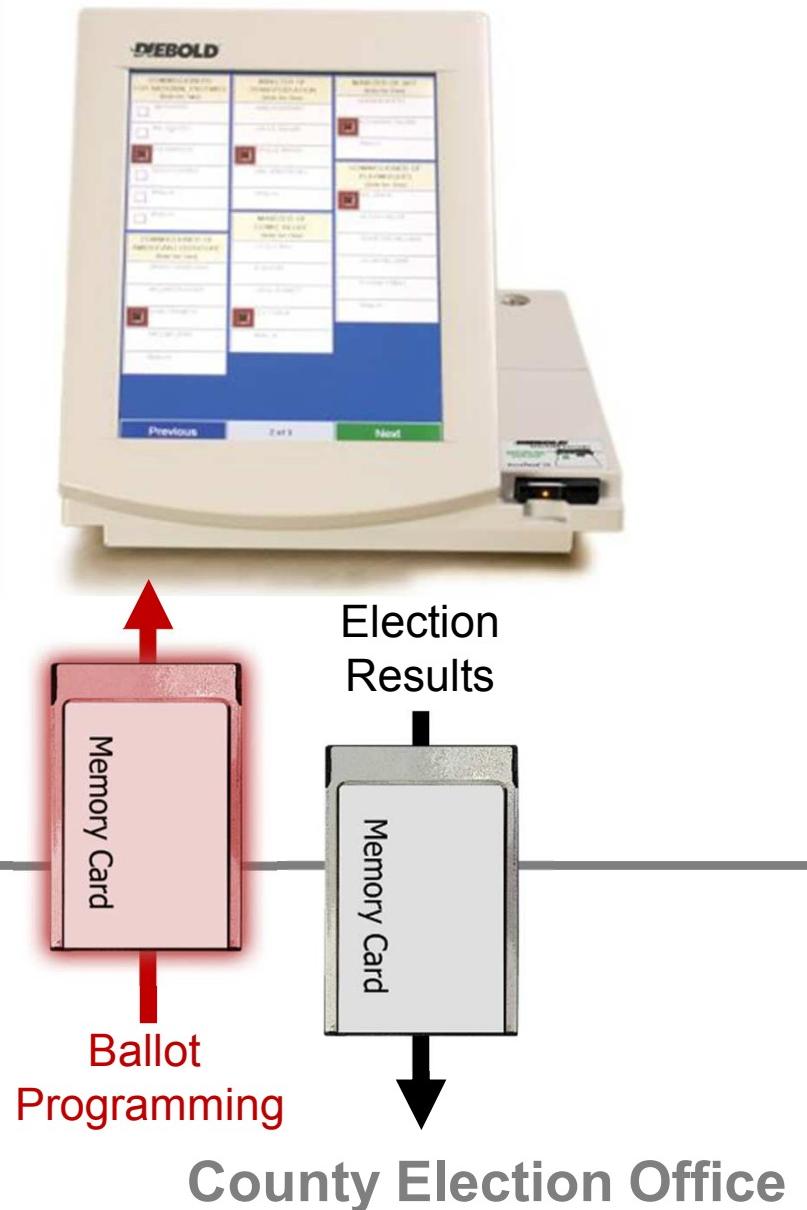
Could be infected by:

- CDs from infected SOS GEMS server
- Infected voting machines
- Remote intrusion
- Physical access to server or memory cards

Inadequate mitigations:

- Last GEMS security upgrade: 2005
- Incomplete comparisons to “known good” software
- Poor physical security:
Allowed to “roam the warehouse where all of Fulton County’s voting machines are programmed, serviced, and stored,” saw “stacks of memory cards strewn about during election programming” (Bernhard Decl. Aug. 2018.)

AccuVote TS/TS-X DREs



If AccuVote TS/TS-X infected:

- Alter vote records or sabotage machines
 - Affect future elections
 - Spread to county GEMS system

Calif. TTBR Diebold Source Code Review (2007)

Could be infected by:

- (a) Infected county ballot programming
- (b) Physical access to machine or memory card

Inadequate mitigations:

- Last BallotStation security upgrade: 2005
- Dozens of severe, publicly-known vulnerabilities
- “Logic and Accuracy” testing defeatable
- Poor physical security
- Easily bypassed locks and tamper-evident seals
- No forensic examination of memory cards
- Never examined any DRE’s internal memory
- Paperless DREs are not “software independent”

Risks at SOS Office:

- network attack spread by USB stick
- physical intrusion/dishonest insider
- supply chain attack/legacy data

could spread malware across all counties

Risks at county offices:

- infection spread on CD from SOS
- infection spread from polling places
- remote intrusion
- physical intrusion/dishonest insider

could spread malware across entire county

Risks to AccuVote DREs:

- Infection via county or SOS GEMS server
- Infection via brief access to machine or card

malware can alter all vote records, spread to other DREs, persist into future elections

